metabolite of clopidogrel and its antiplatelet effects. Meanwhile, ABCB1 C3435T also plays an important role in intestinal absorption of clopidogrel, which will further affect the exposure to clopi-H4.

GW25-e0513

Impact of obesity on long-term outcomes in patients with acute coronary syndrome and without diabetes

Sheng-Yong Dong[1,2], Man-Liu Wang[3], Hang Xiang[1], Qiang Zeng[1]
[1]International Medical Center, Chinese PLA General Hospital, Beijing 100853, China, [2]Healthcare Department of Management and Logistic Support Department, General Staff Department of PLA, Beijing 100034, China, [3]Center of Biomedical Analysis, Tsinghua University, Beijing 100084, China

Objectives: Obesity is associated with an increased cardiovascular events in the general population. However, recent studies have shown a paradoxic relation between obesity and adverse outcomes in patients with type 2 diabetes, coronary artery disease, heart failure, or hypertension. However, whether this phenomenon exists in patients with acute coronary syndrome (ACS) but without diabetes is not known. The aim of the study was to assess the impact of obesity on adverse outcomes in patients with acute coronary syndrome (ACS) but without diabetes.
Methods: A total of 571 patients with ACS but without diabetes (72.5% was men, mean age was 59.9 ± 11.2 years) were included in a retrospective study, and with at least 3 years' follow-up. The endpoint events were major adverse cardiovascular events (MACE), which included cardiac death, non-fatal myocardial infarction, and rehospitalization with unstable angina. The primary outcomes were cardiac death and non-fatal myocardial infarction. Patients were classified into 3 groups according to baseline body mass index (BMI): less than 24 kg/m^2 (normal weight), 24 to 28 kg/m^2 (overweight), and 28 kg/m^2 or more (obese).
Results: The incidence of long-term MACE was 33.6% and decreased with the levels of BMI (the incidences of MACE were 37.9%, 34.1%, and 25.2%, respectively, P trend=0.031). Obese patients had a lower risk of MACE than their normal weight counterparts (hazard ratio (HR) =0.58; 95% confidence interval (CI), 0.37-0.91; P=0.016). After multivariable adjustment, the lower risk of MACE in obese patients remained significant (HR=0.60; 95% CI, 0.39-0.94; P=0.027). The overweight patients also had a lower risk of MACE than the normal weight patients in the single and the multiple variables Cox models, but the differences were not significant (the P values were 0.271 and 0.272 in the single and multiple variables models, respectively). Furthermore, the risks of the primary outcomes also decreased with BMI levels in the single and multiple variables models, but all of the differences were not statistically significant (P>0.05 for all).
Conclusions: In a population with ACS but without diabetes, obese patients had a decreased risk of major adverse cardiovascular events compared with their normal weight counterparts. In concordance with data in patients with diabetes, coronary artery disease, hypertension, or heart failure, our findings further suggest a protective effect of obesity on long-term outcomes in patients with ACS but without diabetes. Furthermore, multi-center and large-scale prospective study are needed to evaluate the findings.

GW25-e1096

Growth differentiation factor 15 is an early predictor of heart failure in STEMI patients

Xu Xinye, Wei Gao
Department of Cardiovascular Disease, Peking University Third Hospital

Objectives: To measure the concentration of GDF-15 in patients with STEMI and to evaluate its potential to predict heart failure in this group of patients.
Methods: Fifty nine STEMI patients who were admitted to the hospital within 6 hours of symptom onset were enrolled in the study. Biomarkers were measured both immediately at the time of STEMI diagnosis and 24 hours later. Killip classification was evaluated 24 hours after admission.
Results: GDF-15 levels were high at the time of admission and were positively correlated with both Killip classification and pulmonary artery systolic pressure (PASP). Brain natriuretic peptide (BNP) significantly increased 24 hours after admission and also positively correlated with Killip classification and PASP. However, at the time of admission, there was no significant correlation. One-way ANOVA revealed significant differences in GDF-15 concentrations among the different Killip classes. Based on the receiver-operating-characteristic (ROC) curve, we determined that a value of 716.6 pg/mL corresponded to a Killip classification greater than Class II; a value of 1021.1 pg/mL corresponded to a classification higher than Class III. Other biomarkers that were assessed in the study included TnT, IL-6, IL-8, IL-10, and MCP-1; none of these markers correlated with either PASP or Killip class.
Conclusions: In patients with STEMI, GDF-15 is increased prior to BNP. GDF-15 may predict risk of congestive heart failure following STEMI.

GW25-e2172

Obstructive Sleep Apnea and Gensini Score in Suspected Coronary Artery Disease Patients

Peng Long, Jinlai Liu
the Third Affiliated Hospital, Sun Yat-sen University

Objectives: The relationship between obstructive sleep apnea (OSA) and severity of coronary artery disease (CAD) remains unclear. The present study aimed to determine the association between OSA severity and Gensini score detected by 320-slice coronary CTA in suspected CAD patients.
Methods: A total of 285 consecutive men (age: 60.3± 9.8 years; BMI: 27.5 ± 5.8 kg/m2) who received polysomnography and 320-slice coronary CTA for suspected CAD were included. Patients with prior revascularization were excluded. Suspected CAD depended on angina-like symptoms, elevated cardiovascular risk, abnormal echocardiogram, positive stress ECG test and/or myocardial perfusion scintigraphies. OSA was diagnosed according to polysomnography when the apnea-hypopnea index (AHI) is greater than 5. Gensini scores, a method to evaluate the severity of coronary artery disease, were gathered from 320-slice coronary CTA using the AHA 15-segment model of coronary trees. The volunteers were divided to three groups according to AHI: no-OSA group (AHI≤5), mild-OSA group (5<AHI<30) and severe-OSA group (AHI≥30). Gensini scores were compared among groups using two-way ANOVA. Spearman coefficient was calculated to explore the correlation between AHI and Gensini scores. $p<0.01$ was considered statistically significant.
Results: Based on AHI, 153 patients were categorized into no-OSA group, 84 into mild-OSA group and 48 into severe-OSA group. There were no statistical differences among three groups in BMI, blood pressure, serum lipid level and blood glucose level. Compared with no-OSA group, Gensini scores in mild-OSA (34.72±17.47 vs 20.96±13.27, $p<0.01$) and severe-OSA group (55.34±20.57 vs 20.96±13.27 $p<0.01$) were significantly higher. Moreover, Gensini score in mild-OSA group was significantly lower than severe-OSA group (34.72±17.47 vs 55.34±20.57, $p<0.01$). Spearman coefficient indicated that the AHI of OAS positively correlated with Gensini scores (r=0.578, $p<0.01$).
Conclusions: Our study found an obvious correlation between OSA severity and Gensini score in suspected CAD patients. OSA severity should be an assessment of CAD risk.

GW25-e2321

Thrombus aspiration improves all-cause death in long term follow-up in patients undergoing percutaneous coronary intervention for ST-segment elevation myocardial infarction: a meta-analysis of randomized trials

Liao Li-Zhen[1], Zhuang Xiao-Dong[2], Du Zhi-Min[2], Liao Xin-Xue[2]
[1]Department of Health, Guangdong Pharmaceutical University, Guangzhou Higher Education Mega Center, Guangzhou, 510006, People's Republic of China
[2]Department of Cardiovasology, the First Affiliated Hospital, Sun Yat-Sen University, Guangzhou, 510080, People's Republic of China

Objectives: Clinical trials produced conflicting results of routine intracoronary thrombus aspiration (TA) before primary percutaneous coronary intervention (PCI) in ST-segment elevation myocardial infarction (STEMI) patients. This study was to perform an updated meta-analysis of randomized trials to evaluate all-cause death events, other clinical outcomes [major adverse cardiac event (MACE), re-myocardial infarction (Re-MI), stent thrombosis (ST), target-vessel revascularization (TVR), target-lesion revascularization (TLR)] and the makers of myocardial reperfusion between TA prior to PCI (TA+PCI) compared with PCI only in STEMI patients.
Methods: The primary sources were the electronic databases of PubMed, Embase, and the Cochrane Library from January 1990 to November 2013. Randomized clinical trials comparing sildenafil to placebo, in heart failure patients, reporting at least one outcome of interest were included. Data were extracted regarding the characteristics and clinical outcomes, and combined using a fixed or random effect meta-analysis.
Results: A total of 25 randomized trials with 12940 patients were included. TA+PCI A total of 25 randomized trials with 12940 patients were included. TA+PCI was associated with significant benefits in terms of all-cause death in ≥6 months follow-up ($P = 0.03$) but not in 30 days ($P = 0.20$). As for other clinical outcomes in 30 days follow-up, TA+PCI was only associated with a trend of lower Re-MI rate, and in ≥6 months follow-up, TA+PCI had significant lower rates of MACE, Re-MI and TLR as compared with PCI only. Besides, TA+PCI were associated with significantly improved markers of myocardial reperfusion.
Conclusions: TA+PCI was associated with significant benefits in terms of all-cause death, MACE, Re-MI and TLR in ≥6 months follow-up but not in 30 days follow-up, with significantly improved markers of myocardial reperfusion. Thus, TA is recommended for routine use among STEMI patients undergoing PCI for long term consideration.

GW25-e2417

Resting Heart Rate Associates with 1-Year Risk of Major Adverse Cardiovascular Events in Patients with Acute Coronary Syndrome after Percutaneous Coronary Intervention

Shaoli Wang[1], Da-Zhuo Shi[2]
[1]Guang'anmen Hospital, China Academy of Chinese Medical Sciences, [2]Heart institute, China Academy of Chinese Medical Sciences

Objectives: The study was to access the association between resting heart rate (RHR) and 1-year risk of major adverse cardiovascular events (MACE) in acute coronary syndrome (ACS) patients after percutaneous coronary intervention (PCI).
Methods: A total of 808 participants with ACS after successful PCI were assigned to the conventional treatment. MACE was defined as a composite of cardiac death, nonfatal recurrent myocardial infarction (MI), ischemic-driven revascularization, and